

# CLASSIFICATION ENGINE IN A CRYPTOGRAPHY ACCELERATION CHIP

## ABSTRACT

Provided is an architecture for a cryptography accelerator chip that allows significant performance improvements over previous prior art designs. In various embodiments, the architecture enables parallel processing of packets through a plurality of cryptography engines and includes a classification engine configured to efficiently process encryption/decryption of data packets. Cryptography acceleration chips in accordance may be incorporated on network line cards or service modules and used in applications as diverse as connecting a single computer to a WAN, to large corporate networks, to networks servicing wide geographic areas (e.g., cities). The present invention provides improved performance over the prior art designs, with much reduced local memory requirements, in some cases requiring no additional external memory. In some embodiments, the present invention enables sustained full duplex Gigabit rate security processing of IPsec protocol data packets.

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